

AMENDMENTS TO THE SPECIFICATION:

Page 1, after the title, please insert as follows:

--This application is the US national phase of international application PCT/IB2003/001138 filed 23 March 23 2003 which designated the U.S. and claims priority to IT Application No. MO2002A000073 filed 28 March 2002. The entire contents of these applications are incorporated herein by reference.--

Please amend the paragraph beginning at page 3 line 13, as follows:

According to a first aspect of the invention, a go-cart is provided, comprising a steering ~~means~~arrangement, suitable for directing said go-cart along a given trajectory, and a speed control ~~means~~device, suitable for modifying the running speed of said go-cart, ~~characterised in that,~~wherein said speed control ~~means~~device is so configured as to interact with said steering ~~means~~arrangement.

Please amend the paragraph beginning at page 3 line 19, as follows:

This aspect of the invention enables disabled persons, especially persons who are unable to use their lower limbs with agility, to drive easily even go-carts because they can

use the steering ~~means~~arrangement to also adjust the speed control ~~means~~device. The same parts of the body, e.g. the hands, that by means of the steering ~~means~~arrangement set the trajectory of the go-cart can therefore also actuate the speed control ~~means~~device, eliminating the necessity to use different parts of the body, e.g. the feet, to control the speed of the vehicle.

Please amend the paragraph beginning at page 3 line 28, as follows:

According to a second aspect of the invention, a go-cart is provided, said go-cart being provided with a steering means arrangement comprising a steering column means and a steering wheel means by means of which a driver can set a trajectory for said go-cart, ~~characterised in that,~~wherein between said steering wheel ~~means~~ and said steering column ~~means~~ a joint means member is placed, said joint ~~means~~member being suitable for enabling said steering wheel ~~means~~ to be positioned according to a tilt that is substantially independent of said steering column ~~means~~.

Please amend the paragraph beginning at page 4 line 3, as follows:

The joint ~~means~~member enables the steering wheel ~~means~~ to be provided with a tilt that is different from that of the steering column ~~means~~ in such a way as to give the steering wheel ~~means~~ a tilt that is comfortable for the driver, e.g. by arranging it on a plane that is almost parallel to the driver's chest. The driving position is thus significantly more comfortable and enables the driver to drive the go-cart even for very long periods without feeling discomfort in the arms or wrists.

Please amend the paragraph beginning at page 4 line 12, as follows:

According to a third aspect of the invention, a kit for a vehicle is provided, comprising a braking control means~~device~~ suitable for actuating a braking ~~means~~device of said vehicle, and an acceleration control ~~means~~device suitable for actuating an acceleration ~~means~~device of said vehicle, said braking control ~~means~~device and said acceleration control ~~means~~device being so configurable as to interact with a steering ~~means~~ arrangement of said vehicle.

Please amend the paragraph beginning at page 4 line 19, as follows:

This aspect of the invention enables a traditional vehicle such as a go-cart to be modified by equipping it with a braking control meansdevice and an acceleration control meansdevice that can interact with the steering meansarrangement of the go-cart. By so doing, by intervening on the steering meansarrangement the driver can modify the vehicle speed according to vehicle running requirements without having to use parts of the body other than those that act on the steering meansarrangement. This is of great use for disabled persons, who, owing to this aspect of the invention, can convert a vehicle of traditional type, which they would not be capable of driving, into a modified vehicle that they can drive by using for example only their hands. There is no need to emphasise that the kit according to this aspect of the invention enables considerable savings to be made compared with the expense required to construct a new vehicle suitable for disabled persons, for example a go-cart.

Please amend the paragraph beginning at page 5 line 1, as follows:

According to a fourth aspect of the invention, an apparatus for controlling the run of a vehicle is provided comprising a steering meansarrangement provided with a first steering column means slidable in relation to a second steering column means in order to modify the

speed of said vehicle, and further comprising a position sensor ~~means~~ suitable for detecting the axial position of said first steering column ~~means~~ in relation to said second steering column ~~means~~.

Please amend the paragraph beginning at page 5 line 9, as follows:

The position sensor ~~means~~ enables the axial position of the first steering column ~~means~~ to be accurately detected in relation to the second steering column ~~means~~ in such a way as to be able to associate in an extremely precise manner a preset acceleration or braking intensity with each position of the first steering column ~~means~~. It is thus possible to obtain a vehicle that can be controlled in an extremely precise and reliable manner using only the hands.

Please amend the paragraph beginning at page 5 line 17, as follows:

According to a fifth aspect of the invention, a go-cart is provided comprising a steering ~~means~~arrangement through which a driver can set a trajectory of said go-cart, said steering ~~means~~arrangement comprising a control ~~means~~device arranged for modifying the position of wheels of said go-cart according to a command of said driver, ~~characterised in~~

~~that, wherein~~ said control ~~means~~device comprises a hydraulic drive meansarrangement
arranged for hydraulically modifying said position.

Please amend the paragraph beginning at page 5 line 25, as follows:

The hydraulic drive ~~means~~arrangement enables the trajectory of the go-cart to be set
in a particularly easy manner and without exerting excessive effort. Thus, even persons with
little strength in their arms such as handicapped persons can drive the go-cart.

Please amend the paragraph beginning at page 5 line 30, as follows:

According to a sixth aspect of the invention, an apparatus for controlling the run of a
vehicle is provided, comprising a steering meansarrangement suitable for enabling said
vehicle to be directed along a given trajectory, and a speed control meansdevice, suitable
for modifying the running speed of said vehicle, ~~characterised in that, wherein~~ said speed
control ~~means~~device comprises an articulated quadrilateral meansarrangement actuatable by
said steering ~~means~~arrangement.

Please amend the paragraph beginning at page 6 line 4, as follows:

The articulated quadrilateral ~~means~~arrangement provides a constraint for the movement of the steering ~~means~~arrangement when the latter is used to actuate the speed control ~~means~~device. The involuntary movements of the steering ~~means~~arrangement are thus avoided, which could cause involuntary modifications to the trajectory whilst the driver is braking or accelerating.

Please amend the paragraph beginning at page 6 line 10, as follows:

Furthermore, the articulated quadrilateral ~~means~~arrangement enables the speed control ~~means~~device to be actuated in a particularly effective and reliable manner.

Please amend the paragraph beginning at page 6 line 13, as follows:

According to a seventh aspect of the invention, an apparatus for controlling the run of a vehicle is provided, comprising a steering ~~means~~arrangement, suitable for allowing said vehicle to be directed along a given trajectory, and a speed control ~~means~~device, suitable for modifying the running speed of said vehicle, ~~characterised in that, wherein~~ said speed control ~~means~~device comprises a first shaft ~~means~~ slidably coupled with a second shaft ~~means~~ and actuatable by means of said steering ~~means~~arrangement.

Please amend the paragraph beginning at page 6 line 21, as follows:

Owing to the slidable coupling between the first shaft ~~means~~ and the second shaft ~~means~~, it is possible to transform the traditional vehicles, provided with pedal-operated acceleration or braking ~~means~~device, in vehicles wherein the speed can be controlled by the steering ~~means~~arrangement. To do so, it is sufficient to slidably couple the second shaft ~~means~~ with which an ordinary vehicle is equipped with an appropriately preset first shaft ~~means~~.

Please amend the paragraph beginning at page 7 line 1, as follows:

Figure 2 is an enlarged and interrupted perspective view of a braking ~~means~~device with which the go-cart of Figure 1 is provided;

Please amend the paragraph beginning at page 7 line 3, as follows:

Figure 3 is an enlarged and interrupted perspective view of support ~~means~~structure of the braking ~~means~~device of Figure 2;

Please amend the paragraph beginning at page 7 line 5, as follows:

Figure 4 is an interrupted side view of a steering meansarrangement associated with a speed control meansdevice, in an alternative embodiment;

Please amend the paragraph beginning at page 7 line 10, as follows:

Figures 6 and 7 show an enlarged detail of the braking meansdevice, in two differing operating configurations;

Please amend the paragraph beginning at page 7 line 12, as follows:

Figure 8 is a view like the one in Figure 4, showing acceleration meansdevice with which the go-cart is provided,

Please amend the paragraph beginning at page 7 line 14, as follows:

Figure 9 is a partially sectioned and interrupted view of the steering meansarrangement of Figure 4;

Please amend the paragraph beginning at page 7 line 16, as follows:

Figure 10 is a partially sectioned and interrupted view of a steering meansarrangement provided with a removable steering wheel;

Please amend the paragraph beginning at page 7 line 18, as follows:

Figure 11 is an interrupted side view of a steering meansarrangement provided with a lever meanssystem arranged for actuating a speed control meansdevice in particular operating conditions;

Please amend the paragraph beginning at page 7 line 21, as follows:

Figure 12 is a front view of a steering wheel provided with the lever meanssystem of Figure 11;

Please amend the paragraph beginning at page 7 line 25, as follows:

Figure 14 is an interrupted and partially sectioned view from above of the steering meansarrangement of a motor vehicle;

Please amend the paragraph beginning at page 7 line 27, as follows:

Figure 15 is a side view from the left of the steering ~~means~~arrangement of Figure 14;

Please amend the paragraph beginning at page 7 line 29, as follows:

Figure 16 is a side view from the right of the steering ~~means~~arrangement of Figure 14;

Please amend the paragraph beginning at page 7 line 31, as follows:

Figure 17 shows an electric diagram of an acceleration ~~means~~device suitable for being fitted to a motor vehicle.

Please amend the paragraph beginning at page 8 line 7, as follows:

A seat 7, which is also supported on the chassis 2, enables a driver to be accommodated who controls the go-cart 1 by using a steering ~~means~~arrangement 8 that is provided with a steering wheel that is not shown. The steering ~~means~~arrangement 8 further comprises a sleeve 9, that is connected as one with the steering wheel, the sleeve 9 being axially slidable in relation to a shaft 10. A prismatic joint, that is not shown, comprising for example a grooved surface made inside the sleeve 9 suitable for shapingly coupling with a

further grooved surface made on the shaft 10 enables the sleeve 9 to translate along the shaft 10 whilst preventing relative rotation.

Please amend the paragraph beginning at page 9 line 1, as follows:

A ring 13 is fixed rigidly to the sleeve 9, which ring is provided with a first appendage 14 and a second appendage 15 and enables a speed control meansdevice to be actuated, said speed control meansdevice comprising a braking meansdevice 25 and an acceleration meansdevice 43. The acceleration meansdevice 43 comprises a cable 16, connected at a first end thereof to the first appendage 14, and at a second end thereof to a valve, e.g. a throttle valve, which enables the mixture formed in a carburettor that is not shown to enter the engine actuating the go-cart 1.

To the second appendage 15 an actuating rod 17 is connected that is arranged to actuate the braking meansdevice 25, as shown in greater detail in Figure 2.

Please amend the paragraph beginning at page 9 line 13, as follows:

The actuating rod 17 is slidably engaged, near its end that is furthest from the second appendage 15, in an internally hollow stem 18 hinged on a lever 19 in a terminal area of the

stem 18 opposite the actuating rod 17. The lever 19 may oscillate around an intermediate point thereof and is partially housed in the containing body of a pump 20 that is part of the braking ~~means~~device 25, so that the end of the lever 19 furthest from the stem 18 may actuate a piston ~~means~~ that is not shown that is contained inside the pump 20. The latter sends a pressurised fluid, e.g. oil, into a brake circuit comprising a flexible conduit 21 that by means of a caliper 22 actuates two shoes 23 working with a disk 24 positioned on the motor axis 26 of the go-cart 1. Thus it is possible to make the drive wheels of the go-cart 1 brake, namely the rear wheels.

Please amend the paragraph beginning at page 9 line 27, as follows:

The pump 20 is fitted to the go-cart 1 by means of a support ~~means~~structure 27, shown in detail in Figure 3, comprising a bracket 28 provided with a horizontal support plane 29 from which an anchor wall 30 develops that is provided with two fixing holes 31. The pump 20 is positioned on the support plane 29 and is then pressed against the anchor wall 30 and fixed thereto by bolts 32 that engage in the holes 31.

Please amend the paragraph beginning at page 10 line 1, as follows:

The support plane 29 ensures that the pump 20 is maintained in a horizontal position during running, which makes it very difficult to absorb air bubbles within the pressurised fluid, which bubbles, being compressible, could diminish the effectiveness of the braking ~~means~~device.

Please amend the paragraph beginning at page 11 line 14, as follows:

If, on the other hand the driver wishes to brake he or she must push the steering wheel away from him or herself in such a way that under the thrust of the second appendage 15 of the ring 13 the actuating rod 17 penetrates into the stem 18 until it causes the lever 19 to oscillate around its fulcrum. The lever 19 thus actuates the piston ~~means~~ of the pump 20 that supplies the fluid inside the flexible conduit 21, thereby tightening the caliper 22 and then the shoes 23 on the disk 24 of the braking ~~means~~device 25.

Please amend the paragraph beginning at page 11 line 23, as follows:

When the driver pushes the steering wheel away from him or herself to brake this does not have any effect on the acceleration ~~means~~device: by pushing the cable 16 the latter

bends without modifying the configuration of the carburettor. The braking and accelerating actions are thus totally independent of each other.

Please amend the paragraph beginning at page 11 line 29, as follows:

In addition to building a new go-cart 1 that is configured according to the above description, it is also possible to convert a traditional go-cart to enable it operate in the manner explained previously. To do this it is sufficient to remove the steering wheel from the traditional go-cart, if necessary shorten the steering column 12 and fit an appropriate adaptation kit on the traditional go-cart. This kit comprises the joint 11, which is fitted to the steering column 12 that may have been shortened, the shaft 10 and the sleeve 9, which is connected to the steering wheel. The shaft 10 is advantageously provided with the ring 13 and the two appendages 14 and 15 supporting the cable 16 and the actuating rod 17. The shaft 10 must furthermore be supported on the chassis 2 by means of an appropriate support element 40 that is part of the adaptation kit, and a support means structure 27 of the pump 20 in relation to the chassis 2 must be provided. The above mentioned kit thus makes it possible, with a small number of simple operations, to pass from a go-cart wherein the

brake and the accelerator are actuated by pedals to a go-cart the controls of which are completely manual.

Please amend the paragraph beginning at page 12 line 29, as follows:

The movable member 48 is connected to the chassis 2 by an articulated quadrilateral ~~means~~arrangement. In the embodiment in Figure 4, the articulated quadrilateral ~~means~~arrangement comprises an articulated parallelogram ~~means~~arrangement provided with two pairs of rocker arms 47a, 47b hinged near respective first ends, on the movable member 48 inside which the shaft 10a is housed as shown in detail in Figure 5. The second ends of the rocker arms 47a, 47b are hinged on a fixed support element 40' that is connected with the chassis 2. As shown in Figure 5, the two pairs of rocker arms 47a, 47b are arranged on opposite sides of the movable member 48 and of the fixed support element 40' in such a way that the movable member 48 is guided on both sides during its movement in relation to the chassis 2.

Please amend the paragraph beginning at page 13 line 17, as follows:

A L-shaped element 52 is fixed to an upper portion of the movable member 48, the L-shaped element 52 being in turn fixed to the braking ~~means~~device 25 and to the acceleration ~~means~~device 43. In particular, the actuating rod 17 of the braking ~~means~~device 25 is fixed to the L-shaped element 52 with a ball joint ~~means~~ 53 placed inbetween. Said rod is slidable inside the stem 18 to actuate the pump 20 in the manner already described with reference to Figure 2.

Please amend the paragraph beginning at page 14 line 1, as follows:

When the driver pulls towards himself or herself or pushes away from himself or herself the steering wheel 44 the articulated parallelogram ~~means~~arrangement limits the movement of shaft 10a in relation to the chassis 2. The two pairs of rocker arms 47a, 47b in fact limit the movable member 48 to travelling along a route according to which the axis of the shaft 10a always remains contained in the same vertical plane.

Please amend the paragraph beginning at page 14 line 24, as follows:

In particular, when the driver draws the steering wheel 44 towards himself or herself the steering wheel 44 exerts traction on the cable 16, which opens the throttle valve of the carburetter. The vehicle is thereby accelerated. The braking ~~means~~device 25 remains inactive during this phase because, as shown by the arrow F1 in Figure 6, the actuating rod 17 is displaced inside the stem 18 in such a way as to move away from an abutting element 61 that is fixed to said stem, which remains in a fixed position. Consequently, the lever 19 remains in its rest position.

Please amend the paragraph beginning at page 15 line 9, as follows:

The acceleration ~~means~~device 43 is not actuated during this phase because after pressure has been exerted on the steering wheel 44 the cable 16 is bent back on itself without performing any action on the carburetter. A further spring 59 makes the cable 16 return, which takes the throttle valve back to its equilibrium position.

Please amend the paragraph beginning at page 15 line 19, as follows:

Furthermore, the actuation modes for the braking and acceleration ~~means~~devices shown in Figures 4 to 9 and in particular the articulated parallelogram ~~means~~arrangement

can be used not only in a go-cart but also in a different type of motor vehicle such as an automobile.

Please amend the paragraph beginning at page 15 line 24, as follows:

In the embodiment disclosed in Figures 11 and 12 the steering wheel 44 is provided with manual actuating ~~means~~device for actuating the acceleration ~~means~~device 43, comprising a further lever 67. By acting on the further lever 67 the driver may exert traction on the cable 16. The further lever 67 is pivoted in a central portion thereof on a clamp element 69 fitted to a rung 68 of the steering wheel 44. The further lever 67 is provided with a broadened end on which the driver can act, for example, by using his thumb and with a further end to which an extension 70 of the cable 16 is connected, said extension 70 coming from the plate 55.

Please amend the paragraph beginning at page 16 line 8, as follows:

Owing to the manual actuating ~~means~~device, the driver can keep the go-cart stationary by pushing the steering wheel 44 away from his or her body in such a way as to activate the braking ~~means~~device 25 and at the same time accelerate the go-cart by means

of the further lever 67. When the go-cart has accelerated completely, the driver can pull the steering wheel 44 towards himself or herself to release the braking ~~means~~device 25. As the engine is at this moment supplying all or a large part of its power, the driver can therefore obtain a particularly aggressive and competitive start for the go-cart.

Please amend the paragraph beginning at page 17 line 10, as follows:

In the embodiment in Figure 10, the movable member 48 and the braking and acceleration ~~means~~devices described previously are associated with the shaft 10b; it is nevertheless possible to also envisage a steering wheel that can be moved in the manner described above also in a vehicle wherein the braking and accelerations ~~means~~devices are actuated by a pedal system.

Please amend the paragraph beginning at page 17 line 27, as follows:

Two pipes 73 come out of the hydraulic drive box 72, which pipes 73 are in turn connected to the delivery and intake ports of a further pump 74. The latter is actuated by a belt ~~means~~ 75, moved by a chain ~~means~~ 76 that is driven by the driving shaft of the go-cart.

Please amend the paragraph beginning at page 17 line 32, as follows:

In a further embodiment, the steering wheel is connected to a first steering column that is axially slidable in relation to a second steering column. For example, the first steering column may be hollow in such a way that the second steering column can slide inside the first steering column. Similarly to what has been described previously, the driver can regulate the speed by pulling towards or pushing away from him or herself the steering wheel, but with a different actuating mechanism for the brakes or accelerator from what has been described above. A Position sensor ~~means~~ is in fact provided that enables the position of the first steering column to be detected, i.e. the position of the slidable steering column, in relation to the second fixed steering column.

Please amend the paragraph beginning at page 18 line 11, as follows:

The position sensor ~~means~~ is connected with a processing card ~~means~~ that processes the signal received from the sensor ~~means~~ and, depending on the position that the first steering column occupies in relation to the second steering column, actuates with a certain intensity the braking ~~means~~device or the acceleration ~~means~~device.

Please amend the paragraph beginning at page 18 line 17, as follows:

The position sensor ~~means~~ may comprise an encoder, the shaft of which is connected with a gear wheel cooperating with a rack fixed to the first steering column. Thus, when the driver modifies the axial position of the first steering column, and of the rack with it, the gear wheel is rotated and the change in its angle position is detected by the encoder, which transmits it to the processing card.

Please amend the paragraph beginning at page 18 line 24, as follows:

In a yet further embodiment the position sensor ~~means~~ may comprise means for reading an optical or magnetic band that is fixed to the first steering column ~~means~~ or to the second steering column ~~means~~.

Please amend the paragraph beginning at page 18 line 28, as follows:

Figures 14, 15 and 16 illustrate an embodiment wherein the acceleration ~~means~~device comprises a position sensor 189, e.g. a potentiometer or an encoder. Said Figures show a steering means arrangement 108 of a motor vehicle comprising a steering wheel 144 fixed to a first shaft 109 provided with a tubular end portion 180 that is slidable

in relation to a second shaft 110. The latter is in turn connected, by means of a joint 111, to a steering column 112 arranged to direct the wheels in the required direction owing to a known steering device. The second shaft 110 is externally provided with a grooved surface that is suitable for shapingly coupling with a further grooved surface made inside the tubular end portion 180 of the first shaft 109. This enables the first shaft 109 to translate in relation to the second shaft 110, at the same time preventing the relative rotation.

Please amend the paragraph beginning at page 19 line 29, as follows:

A microswitch 192 is further fixed to the fixed hollow element 183, the closure or opening of the microswitch 192 being associated with a reference position of the acceleration ~~means~~device.

Please amend the paragraph beginning at page 20 line 6, as follows:

When the driver wishes to brake, he or she must push the steering wheel 144 away from his or her body, which steering wheel 144 translates as one with the first shaft 109, the ring member 113 and the appendage 182 fixed to it. The actuating rod 117 is then moved in such a way as to activate the pump of the braking ~~means~~device that pressurises a fluid

arranged for tightening the shoes of the caliper of the brakes on a disk fitted to the driving axis in such a way as to decrease the speed of the vehicle.

Please amend the paragraph beginning at page 21 line 1, as follows:

Finally, a vehicle provided with a speed control meansdevice such as the one described in the previous Figures may also be provided with automatic or sequential speed gear.

Please amend the paragraph beginning at page 21 line 11, as follows:

It should be noted that it is also possible to provide a speed control meansdevice that does not comprise a steering wheel that is axially movable in relation to the steering column, but wherein the driver can manually activate a braking meansdevice or an acceleration meansdevice without shifting the steering wheel, e.g. by means of control switches.